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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,345	06/28/2001	Krishnamurthy Soumyanath	42390.P11206	8325

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EXAMINER

NGUYEN, HAI L

ART UNIT	PAPER NUMBER
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2816

DATE MAILED: 04/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/896,345

Applicant(s)

SOUMYANATH ET AL.

Examiner

Hai L. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 13-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restriction*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-12, drawn to a peak detector circuit, classified in class 327, subclass 58.
  - II. Claims 13-21, drawn to a DC offset correction circuit, classified in class 327, subclass 307.
2. The inventions are distinct, each from the other because of the following reasons: The inventions groups I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, the subcombination of group I has separate utility, i.e., the peak detector circuit can be used in many different types of circuits such as, for example, a sample and hold. The subcombination of group II has separate utility, i.e., for example, for use in an offset compensating for A/D converter circuit. Therefore, each of the invention may, by itself, be patentable over prior art. See MPEP § 806.05(d).
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with attorney Seth Kalson on 04/04/02 a provisional election was made without traverse to prosecute the invention of group II, claims 12-21. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-21 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 4, 7, 8, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Sudo et al. (US 5,812,018).

With regard to claims 1 and 4, Sudo et al. discloses in Fig.1 a circuit, and a method of use thereof, comprising an input port (N10) having an input signal voltage (VBB); an output port (15) having an output voltage (VPP); and a field-effect-transistor (M11) having a gate, a first terminal, and a second terminal; wherein the gate and the first terminal are each connected to the input port, and the second terminal is connected to the output port, the output voltage is inherently indicative of a local time-average maximum of the input signal voltage.

With regard to claim 2, Fig.1 of Sudo et al. also inherently meets the claimed limitations.

With regard to claims 7 and 10, Sudo et al. discloses in Fig.1 a circuit, and a method of use thereof, comprising an input port (N15) having an input signal voltage (VPP); an output port (10) having an output voltage (VBB); and a field-effect-transistor (M15) having a gate, a first terminal, and a second terminal; wherein the first terminal is connected to the input port, and the gate and the second terminal are each connected to the output port, the output voltage is inherently indicative of a local time-average minimum of the input signal voltage.

With regard to claim 8, Fig.1 of Sudo et al. also inherently meets the claimed limitations.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3, 5, 6, 9, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo et al.

With regard to claims 3 and 5, the above discussed circuit of Sudo et al. meets all of the claimed limitations except for the limitation that the FET has a device width, wherein the FET has a leakage current in excess of 1 micro ampere per micron of device width. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to set the leakage current for meeting specific condition which is in each case optimally matched to its application. Since it has been held that discovering an optimum skill in the art. See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claims 9 and 11 are similarly rejected, note the above discussion with regard to claims 3 and 5.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art, Figs.1-4 in the present application, in view of Nakano (US 5,917,366).

With regard to claim 6, the prior art in Figs.1-4 shows a circuit to provide direct current (DC) offset correction to an input signal voltage, the circuit comprising an input port (IN in instant Fig.4) having the input signal voltage; a field-effect-transistor (402) which can be replaced by a diode (202 in Fig.2); and a DC offset correction unit (406) responsive to the DC

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offset correction voltage to subtract the DC offset correction voltage from the input signal voltage. Figs.1-4 of the prior art meets all the claimed limitations, except for a field-effect-transistor (702 in instant Fig.7) connected as recited in the claim. Nakano teaches in Figs.2-7 a circuit having field-effect-transistors (Q11-Q14) that are substituted for diodes. Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to utilize that teaching of Nakano in the prior art (Figs.1-4) for the advantage of being able to reduce the threshold voltage of the field-effect-transistor.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art, Figs.1-4 in the present application, in view of Nakano (US 5,917,366).

With regard to claim 12, the prior art in Figs.1-4 shows a circuit to provide direct current (DC) offset correction to an input signal voltage, the circuit comprising an input port (IN in instant Fig.4) having the input signal voltage; a field-effect-transistor (402) which can be replaced by a diode (202 in Fig.2); and a DC offset correction unit (406) responsive to the DC offset correction voltage to subtract the DC offset correction voltage from the input signal voltage. Figs.1-4 of the prior art meets all the claimed limitations, except for a field-effect-transistor (702 in instant Fig.7) connected as recited in the claim. Nakano teaches in Figs.2-7 a circuit having field-effect-transistors (Q11-Q14) that are substituted for diodes. Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to utilize that teaching of Nakano in the prior art (Figs.1-4) for the advantage of being able to reduce the threshold voltage of the field-effect-transistor.

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*Conclusion*

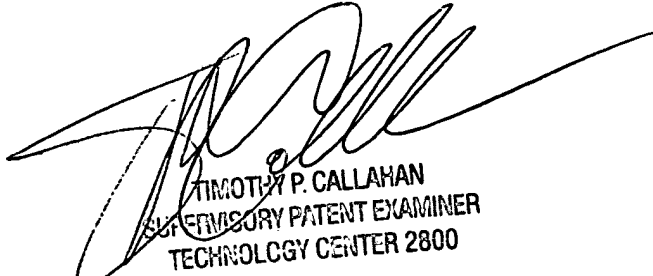
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. For example, Ishiwata et al. (US 4,737,730) is cited as of interest because it discloses a peak detector circuit for FM measuring apparatus.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai L. Nguyen whose telephone number is 703-306-9178. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 703-308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

HLN  
April 5, 2002



TIMOTHY P. CALLAHAN  
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